

Friday, October 07, 2016 2:35:11 PM

Page 1

Stop *NR2*

100	DOOSAN LATHE	0.02		
100				
Doosan	Memo	0.32		
Doosan Lathe	1- Turn as per Folio FB166			
	Rev: <u>N/A</u> &			
	Dwg D4775 Rev: <u>C</u>			
	2- Tap for 3/8-24 Helical insert check with GO/ NO GO gauge			
	3-Deburr per dwg D4775			
110	QC2- Inspect parts off machine FAI/FAIB	0.00		
110				
QC	Memo	0.02		
Quality Control				

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

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Quality Control

Stamp
49
9-89

16/11/05

X10

2016/11/09
BEB

DAS 34 9-89

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WORK ORDER NON-CONFORMANCE / UPDATE



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Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 151807

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151807

Page 3

Item ID: D4775-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Strut Tube
Start Date: 10/3/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 10/7/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>M 134798</i> Memo START TIME: <i>1:35</i> OVEN TEMPERATURE: <i>320°</i> FINISH TIME: <i>2:05</i>	0.00 0.03				<i>10</i>	<i>0</i>	<i>16-11-9</i>	<i>DAS 34 9-89</i>
155 *155* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.02				<i>10</i>			<i>DAS 38 NOV 10 2016</i>
160 *160* Packaging Packaging	Identify as per dwg & Stock Location: <i>5137</i> Memo	0.00 0.02				<i>10</i>	<i>DAS 6 9-89</i>		<i>NOV 14 2016</i>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 151807

Friday, October 07, 2016 2:35:11 PM

151807

Page 4

Item ID: D4775-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Strut Tube

Start Date: 10/3/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 10/7/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC21- Final Inspection - Work Order Release

0.00

170DAS
21
9-89

NOV 15 2016

QC

Memo

0.17

Quality Control

DAS
21
9-89

NOV 14 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

Friday, October 07, 2016 2:35:11 PM

Page 1

Work Order ID: 151807

151807

Parent Item: D4775-1

D4775-1

Parent Item Name: Strut Tube

Start Date: 10/3/2016

Required Date: 10/7/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 13.02.28 NEW ISSUE DD VERF:JFS IPP REV:B
13.09.26 AS PER REV.B DD VERF:JLM IPP REV:C 14.01.10
AS PER REV.C DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6T0.625W.125		Purchased		No		100	f	39.7500	1.15	12.10526			

M6061T6T0 625W 125

6061-T6 RD Tube 0.625 X.125W

SL 16-10-5

Location

Loc Qty

Loc Code

MAT014

39.75

m134548

15.75

m135242

24

135857

12.000

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

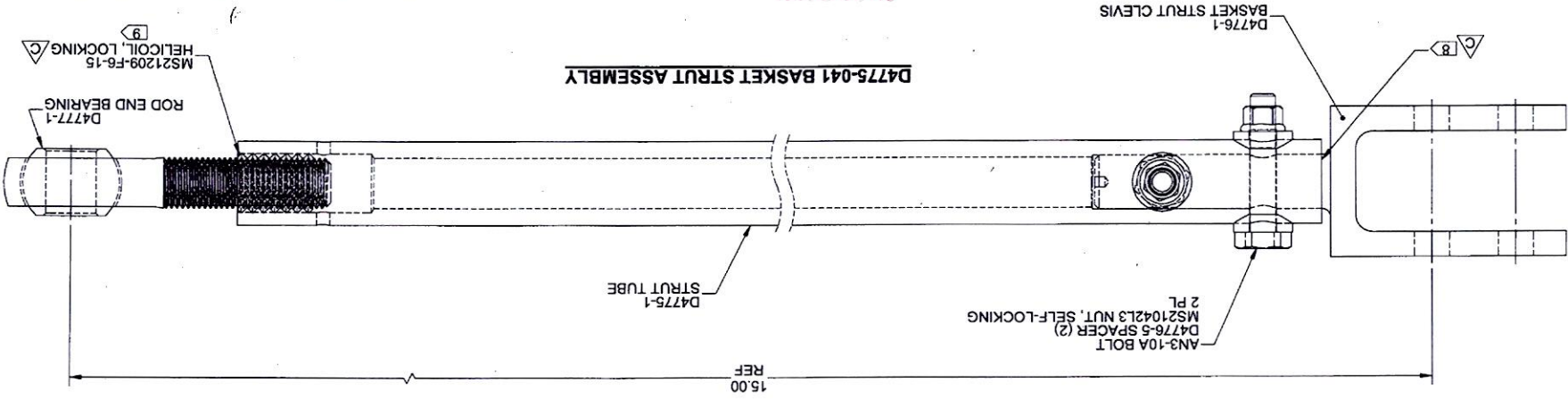


QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

ITEM	QTY	P/N	DESCRIPTION
	X	D4775-041	BASKET STRUT ASSEMBLY
1	1	D4775-1	STRUT TUBE
2	1	D4776-1	BASKET STRUT CLEVIS
3	4	D4776-5	SPACER
4	1	D4777-1	ROD END BEARING
5	2	AN3-10A	BOLT
6	2	MS21042L3	NUT, SELF-LOCKING
7	1	MS21209-F6-15	HELICOID, LOCKING



D4775-041 BASKET STRUT ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 151807
MR 16-10-11

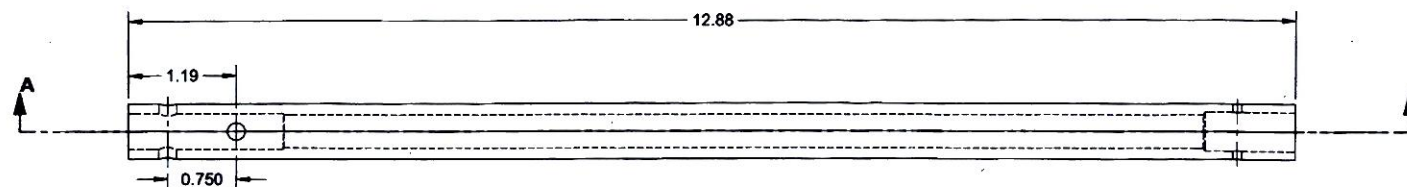
RELEASED
2014-01-07

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART OSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: PER OSI 044 6.1
 - 7) WEIGHT: 0.45 lbs
 - 8) APPLY PROSEAL 890 B-2 (PRC) TO THE STEM OF ITEM 2 TO PREVENT RATTING.
 - 9) ENSURE HELICOID DOES NOT BLOCK HOLE

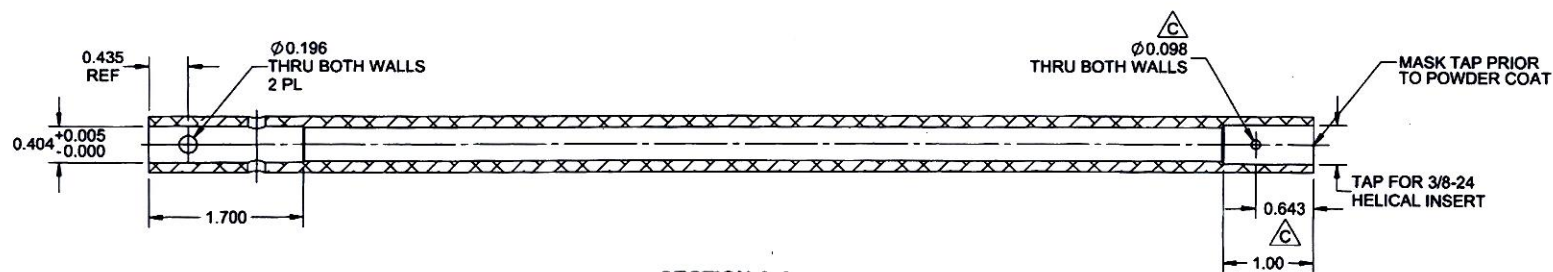
REV.	DESCRIPTION	DATE
A	NEW ISSUE	13.08.08
B	NOTE MOVED TO -1 (SHEET 2) TO ENSURE FASTENERS CLEAR STRUCTURE. FINISH REASON: PREVENT CRACKING & EASE OF MANUFACTURE. C6-2 HOLE PATTERN ON -1 REVERSED DELETED WELD PINS (-3) REPLACED WITH FASTENERS.	13.08.14
C	ITEM 7 WAS F6-20, B2-2 Ø0.098 "WITNESS HOLE" ADDED REASON: CUSTOMER FEEDBACK. ADDED NOTE 8 REASON: DESIGN IMPROVEMENT.	13.11.01

DESIGN	DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.	DATE
AJS	AJS	AJS	AJS	AJS	AJS	13.11.01

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA
DRAWING NO. D4775
SHEET 1 OF 2
REV. C
SCALE NTS
BASKET STRUT ASSEMBLY
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THE WRITTEN PERMISSION OF DART AEROSPACE LTD



D4775-1 STRUT TUBE



SECTION A-A

RELEASED
2014-01-08

NOTES:

- 1) MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING, $\phi 0.625 \times 0.125$ WALL
PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241
REF DART SPEC M6061T6T0.625W0.125
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.24 lbs

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO. D4775	REV. C
MFG. APPR.			SHEET 2 OF 2
APPROVED		TITLE BASKET STRUT ASSEMBLY	SCALE NTS
DE APPR.		COPYRIGHT © 2013 BY DART AEROSPACE LTD	
DATE	13.11.01	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	